

- Leptothyra paucicostata* Dall.
Halistylus pupoideus (Cpr.).
Tegula gallina (Fbs.).
Tegula montereyi (Kiener).
 **Calliostoma canaliculatum*
 (Mart.).
Calliostoma costatum
 (Mart.).
Calliostoma tricolor Gabb.
Calliostoma supragranosum
 Cpr.
Calliostoma annulatum Mart.
Margarites parcipictus Cpr.
Vitrinella stearnsi Bartsch.
Fissurella volcano Rve.
 **Diadora aspera* (Esch.).
Diadora murina (Dall).
 **Megatebennus bimaculatus*
 Dall.
Opalia evicta DeB.
 **Epitonium tinctum* (Cpr.).
Melanella micans (Cpr.).
 **Melanella thersites* (Cpr.).
Turbonilla attrita D. and B.
Turbonilla asser D. and B.
Turbonilla pecora T. S.
 Oldroyd.
Turbonilla styliana Cpr.
Turbonilla cf. *berryi*
 D. and B.
Turbonilla lowei D. and B.
- **Turbonilla halistrepia*
 D. and B.
Turbonilla valdezi
 D. and B.
Turbonilla chocolata Cpr.
Turbonilla halia D. and B.
Turbonilla almo D. and B.
Turbonilla tridentata (Cpr.).
Odostomia turricula
 D. and B.
Odostomia cf. *nota*
 D. and B.
 **Odostomia donilla*
 D. and B.
Oldroydia percrassa Dall.
Nuttallina californica (Rve.).
Ischnochiton magdalenensis
 (Hds.).
Ischnochiton radians Cpr.
 **Ischnochiton decipiens* Cpr.
Chaetopleura gemma Cpr.
 **Callistochiton palmulatus*
 Cpr.
 **Callistochiton crassicosatus*
 Pils.
Mopalia muscosa (Gld.).
Mopalia lignosa (Gld.).
Mopalia ciliata (Sby.).
Placiphorella velata Cpr.
Gyraulus vermicularis
 (Gld.).



BEES COLLECTED BY MR. AND MRS. J. L. SPERRY
AND MR. R. H. ANDREWS IN ARIZONA

By T. D. A. COCKERELL

ANTHOPHORIDAE

CLISODON TERMINALIS SPERRYI n. subsp.

Male more robust, with the long hair of face and upper part of thorax bright reddish-fulvous, the thorax above with only a few inconspicuous dark hairs on disc; abdominal hair-bands

broader, somewhat fulvescent, the fifth tergite with thin inconspicuous black hair at base, but a broad apical pale band, apex with pale hair, but black at base of sixth tergite; hind tibiae very stout; a widely separated very conspicuous spot of pale fulvous hair at extreme base of sixth ventral segment. The eyes are very dark brown.

Arizona: Alpine, June 4, 1937 (Grace H. and John L. Sperry).

Perhaps a distinct species, but more material is needed.

Anthophora simillima Cresson: females from Alpine and Turkey Creek.

A. smithii Cresson: males from Wildcat Creek and Alpine.

A. texana Cresson: female from Alpine (Sperry).

Diadasia diminuta Cresson: one of each sex. Alpine (Andrews).

Melissodes tristis Cockerell: male, Alpine (Andrews).

BOMBIDAE

Bombus morrisoni Cresson: Turkey Creek, White Mountains (Sperry); Alpine (Andrews).

B. dorsalis Cresson: Turkey Creek and Alpine. Many specimens.

B. centralis monardae Cockerell and Porter. Turkey Creek and Wildcat Creek, White Mountains (Sperry); Alpine (Andrews).

MEGACHILIDAE

Lithurgus apicalis opuntiae Cockerell. Both sexes. Baboquivari Mountains, May 22 (Sperry).

LITHURGUS ARIZONENSIS n. sp.

Female: Length about 16 mm., anterior wing 9.4; wings brownish hyaline. This was collected at the same time and place as *L. apicalis opuntiae*, and was at first assumed to be the same, but it clearly differs by the following characters: Disc of clypeus flat, with widely scattered very large punctures, on each side of the flat area the clypeus rapidly slopes downward to the margin; a few hairs, but no strong beard over lower margin of clypeus; the part of labrum exposed below clypeus appearing strongly notched in middle; the bilobed facial prominence very large, the lobes distant and obtuse with large punctures, the interval broadly angular (V-like, but much wider); metathorax behind lacking the strong upwardly-directed tuft of hair; marginal cell rather

longer and more pointed, appendiculate at end; hair at end of abdomen dark reddish-brown, paler at extreme apex. The flagellum is ferruginous beneath.

Arizona: Baboquivari Mountains, May 22, 1937 (Grace H. and John L. Sperry).

The following key separates the related females:

- Facial prominence not bilobed; hair at end of abdomen
rusty black *gibbosus* Smith
- Facial prominence bilobed 1
1. Hair at end of abdomen bright ferruginous
..... *apicalis* Cresson
- Hair at end of abdomen dark 2
2. Clypeal lobes directed downward, the broad interval
between them very shallow; flagellum obscurely
reddish brown beneath *bruesi* Mitchell
- Clypeal lobes directed upward and outward 3
3. Clypeus very smooth in middle, not flattened
..... *opuntiae* Cockerell
- Clypeus flattened in middle, with large punctures;
interval between the facial lobes much deeper
..... *arizonensis* n. sp.

Megachile vidua Smith. Males. Turkey Creek and Alpine (Sperry).

Osmia armaticeps Cresson. Female. Wildcat Creek (Sperry).

O. olivacea Cockerell. Females. Wildcat Creek (Sperry).

OSMIA LYNCIS n. sp.

Female length about 11 mm., anterior wing 7.5, width of abdomen about 4 mm.; head and thorax dark blue-green, with the lower half of clypeus black; the mesothorax dull and granular, practically black, except posteriorly where it is shining

green and strongly punctured; antennae, legs and tegulae black; wings brownish; hair of face and front black, long and coarse, very long on front; vertex with thin black hair; thorax above, and sides of metathorax, with long white hair; mesopleura with black hair, but long white hair on tubercles. Clypeus convex, shining between the strong punctures, the apical margin in middle produced, smooth, subtruncate, appearing shallowly emarginate under the microscope but seen with a lens appearing distinctly binodose, with a depression between the prominent tubercles, but no trace of a median denticle (the structure in *O. nelsoni* is practically the same); mandibles elongate, tridentate (not counting inner corner), with a very strong outer groove; scutellum green, shining between the punctures; area of metathorax black, entirely dull, contrasting with the dark green on each side; mesopleura very dark blue, dull and densely punctured; basal nervure meeting nervulus; first recurrent nervure ending nearly as far from base of second cubital cell as length of intercubitus; legs with black hair, abdomen broad and convex, shining blue-green, strongly punctured; first tergite with long white hair, the others with short black hair; ventral scopa black.

Arizona: Wildcat Creek, White Mountains, June 12, 1937 (Grace H. and John L. Sperry). I was at first disposed to consider this a variety of *O. nelsoni* Cockerell, but it is evidently distinct, being much more robust with a much larger head, and the abdomen much more strongly punctured.

Anthidium maculosum Cresson. Females. Wildcat Creek (Sperry).

Stelis montana Cresson. Two from Wildcat Creek, June 12 (Sperry).

HALICTIDAE

Agapostemon texanus Cresson. Eleven females from Alpine and two from Wildcat Creek.

Halictus trizonatus Cresson. Nine females from Alpine, four from Wildcat Creek, one from Turkey Creek, one from Greer.

There are also species of *Sphecodes* and *Colletes* which are best put aside until the southwestern members of these genera can be revised. Mr. Timberlake has many undescribed species of both genera.